Community Tracing Collaborative

Rapid Design, Development & Operation of a Scalable
COVID-19 Contact Tracing Workforce & *Automation Capability*

Our Approach in Massachusetts

Baker-Polito Administration COVID-19 Command Center
MA Health Connector, Mass Department of Public Health, Partners In Health, Accenture

April 28, 2020

Presenters

Steven Kadish   Harvard Kennedy School, Taubman Center; McKinsey Senior Advisor

Jim Yong Kim, MD, PhD   Former President, The World Bank Group; Co-founder, board director, Partners In Health

Kelly Driscoll   MA COVID-19 Command Center; Lead, Community Tracing Collaborative; Liaison, Local Boards of Health

Louis Gutierrez   Executive Director, Massachusetts Health Connector Authority

Emily Wroe, MD   Director of Implementation & Design, Partners In Health

Kevin Cranston, MDiv   Director, Bureau of Infectious Disease and Laboratory Sciences, MA Dept of Public Health

Francesco De Flaviis   Chief Marketing and Communications Officer, Partners In Health

For More Information

https://www.mass.gov/covid-19-community-tracing-collaborative-resources

Contents

THE NEW YORKER

ion & Poetry   Humor & Cartoons   Magazine   Crossword   Video   Podcasts   Archi

MEDICAL DISPATCH

IT'S NOT TOO LATE TO GO ON OFFENSE AGAINST THE CORONAVIRUS

To end the nightmare, lockdowns aren't enough. We need to hunt the virus and defeat it.

By Jim Yong Kim

At least 185 countries now harbor the coronavirus.

Front-line experience has taught us that hope is a wonderful thing, essential to any difficult undertaking.

But—especially when it comes to infectious disease — hope is of little use unless it's accompanied by a bold and vigorous plan.

**Five elements, five weapons
will make the difference**
in reopening the U.S. economy, putting citizens back to work, preventing flareups:

**Social Distancing | Contact Tracing
Testing | Quarantine/Isolation | Treatment**

R=1.25

Significant Lockdown Alone
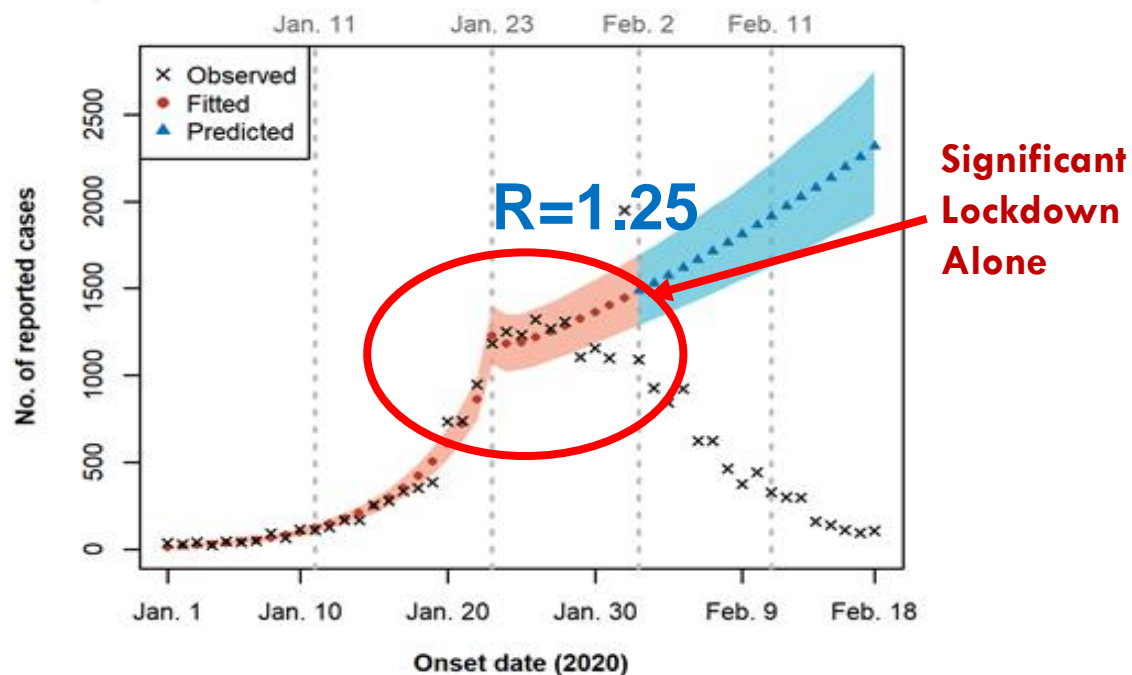
Mitigation, even more severe than social distancing currently implemented in MA is **highly effective** (R 3.88 reduced to 1.25) **but not enough to control the outbreak.**

Contact tracing and Supported Isolation
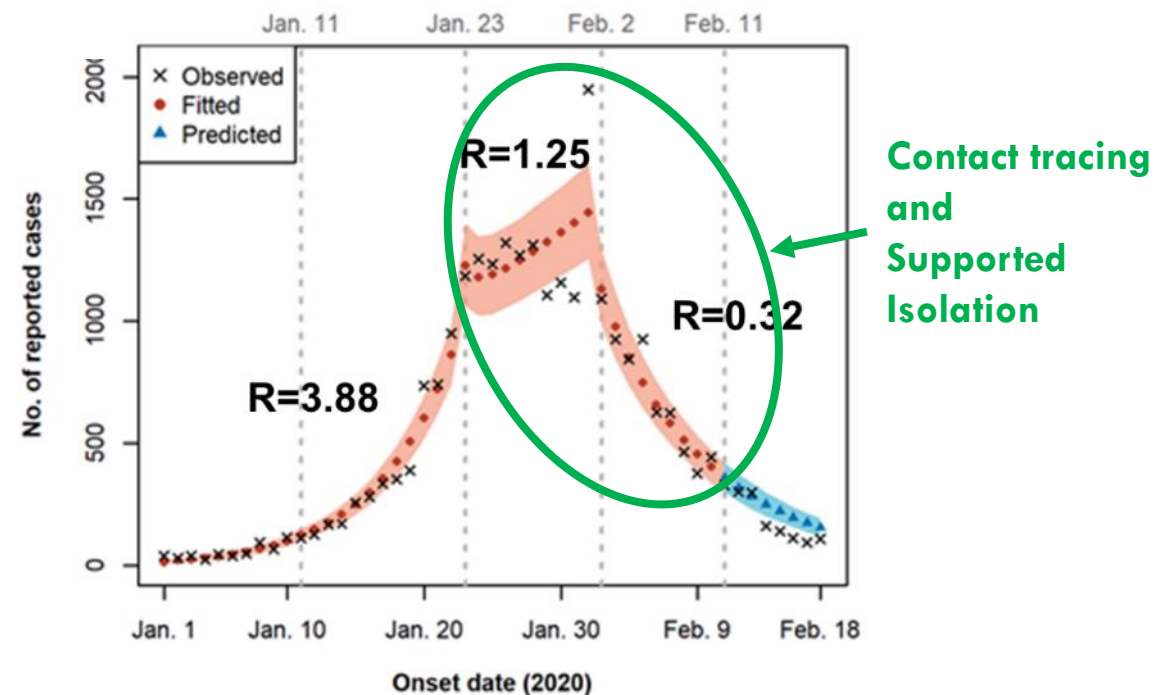
Effective reproductive number _R_ must be pushed below 1 to control the outbreak.

R>1 epidemic continues. **R<1 epidemic wanes.**

Source: Wang et al., Evolving Epidemiology and Impact of Non-pharmaceutical Interventions on the Outbreak of Coronavirus Disease 2019 in Wuhan, China

Contact Tracing | What is it?

- A basic **public health best practice** for tackling an epidemiological incident. Tool used today throughout U.S. and world for both minor incidents and serious ones, i.e. SARS, Ebola

- In its simplest form—**reaching out to the person who is infected, and also reaching out to their contacts**— to corral the disease

- In Massachusetts, we are **building upon the deep experience** of our state Department of Public Health (DPH) and over 300 Local Boards of Health (LBOHs)

- While in 'normal' circumstances, DPH/LBOHs can handle most epi events. The COVID-19 pandemic cannot be handled with existing resources alone.

- Result: **MA Community Tracing Collaborative (CTC).** Scalable workforce and robust call center with automated support to create the capacity to reach thousands of residents/week

CTC MISSION

Reach every person who has tested positive for COVID-19 – and their contacts.

Connect them to testing, providers, and supports, as needed.

Contact Tracing | Prerequisites & Essential Principles for MA CTC

Core Prerequisites for Success:
Sufficient Testing & Isolation Supports

Sufficient large-scale, decentralized testing
(For MA – in progress)

Results linked to central EPI database.

Supports for in-home Quarantine/Isolation

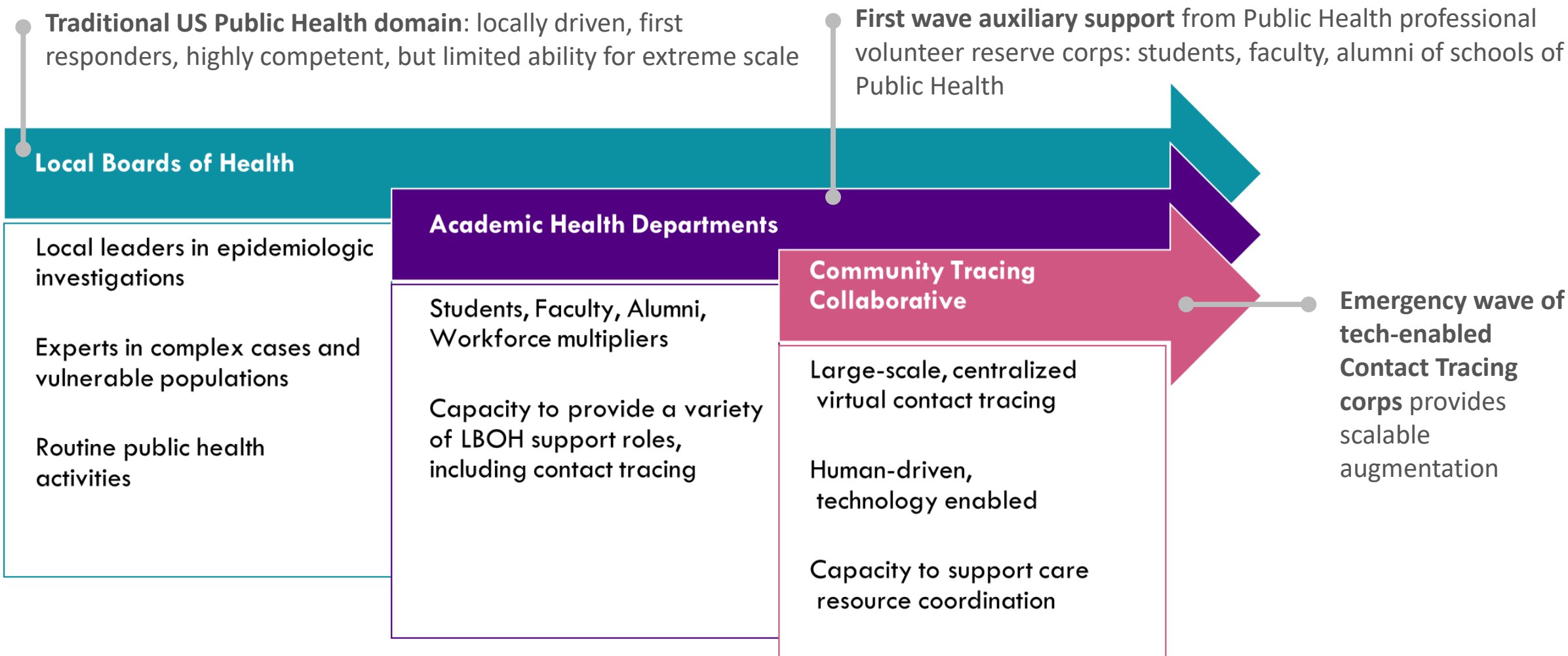Referral to temporary Isolation/Residential

(For MA – in progress)

Testing

Contact Tracing

Quarantine/ Isolation
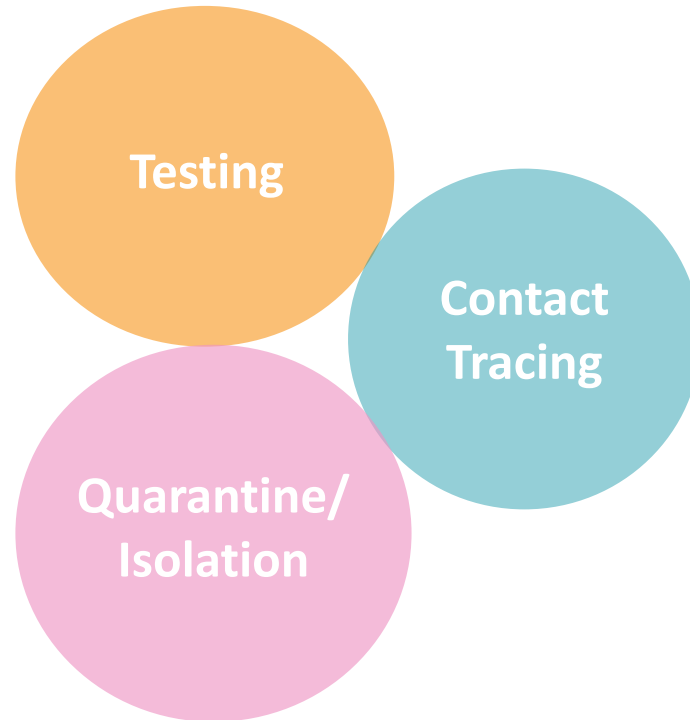
Essential Principles
for MA Community Tracing Collaborative

- Build capacity to reach every person tested COVID-19 positive and their contacts, 5-10,000 people/daily
- Create capabilities that are additive to and coordinated with Local Public Health jurisdictions
- Leverage local cultural/language expertise (e.g. Community Health Centers)
- Integrate seamlessly with State EPI System of Record
- Coordinated with other MA COVID-19 Command Center activities (e.g. testing, supports)
- Maintain Privacy and Security of a Voluntary program
- Provide practical self-help and effective referrals to health care. (Not clinical advice, telemedicine, HIPAA-centric EMR/EHR.)

Our Approach in MA | Building a scalable, tech-enabled Contact Tracing corps

A scalable tracing corps builds on traditional LBOHs and a strong volunteer Public Health community

Traditional US Public Health domain: locally driven, first responders, highly competent, but limited ability for extreme scale

First wave auxiliary support from Public Health professional volunteer reserve corps: students, faculty, alumni of schools of Public Health

Local Boards of Health

Local leaders in epidemiologic investigations

Experts in complex cases and vulnerable populations

Routine public health activities

Academic Health Departments

Students, Faculty, Alumni, Workforce multipliers

Capacity to provide a variety of LBOH support roles, including contact tracing

Community Tracing Collaborative

Large-scale, centralized virtual contact tracing

Human-driven, technology enabled

Capacity to support care resource coordination

Emergency wave of tech-enabled Contact Tracing corps provides scalable augmentation

Our Approach in MA | How

Key Program Ingredients/Organizational Capabilities

- **Clear Leadership Support** from Governor and MA COVID-19 Command Center; CTC is a priority function.

- **General Contractor** contracts for services and technology necessary to enable CTC. Chairs the interorganizational group that reviews development priorities.

- **Scalable Workforce partner** hires, trains and deploys contact tracing corps.

- **Robust call center operations** integrated with an underlying **best-practice CRM** (customer relationship management) tools.

- **System Integration** capability to create/maintain seamless back-end connectivity to state system of record (MAVEN), operating partners, and digital automation tools.

- **Digital automation**, self-assessment, self-help, connectivity and multi-media messaging solutions.

- **Media/advertising/engagement** campaign to reach everyone, especially the most vulnerable in our communities.

Program | Key to Success: Experienced Management at MA Health Connector

In Massachusetts' case, in order to stand-up the virtual call-tracing capacity in rapid timeframes, we felt that the assistance of a second public entity (in addition to the Department of Public Health, but in support of the Department of Public Health) that was less under siege from existing pandemic demands was useful.

This entity was the **Commonwealth Health Connector Authority (CCA)**, a quasi-public entity that serves as the Affordable Care Act's state-based exchange. CCA had the following characteristics:

- **Experience** managing large call centers and systems integration vendors;
- As a **quasi-public authority**, flexibility in matters of both budget and procurement/contracting, subject to board approvals;
- Its own complement of **legal, financial, communications, and operations staff** that could immediately assist in setting up elements
- A **statutory charter** that enabled it to legally undertake activities in support of the overall health system in Massachusetts

CCA immediately set about the task of scoping and procuring key vendors.

Program | Organizational Architecture

Governor's Covid-19 Command Operations

General Contractor
State-run insurance Exchange (ACA HIX)
Quasi-public
Consistent with Federal/State funding streams

MASSACHUSETTS HEALTH CONNECTOR

Workforce Partner
Partners In Health

BLUE CROSS BLUE SHIELD MASSACHUSETTS

Community Health Centers

Digital Automation Partners
buoy
TBD
TBD

Technology Partner
accenture

salesforce — Call Center Platform

COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

State/Local Public Health Authorities

State EPI Database
system of record
"MAVEN"
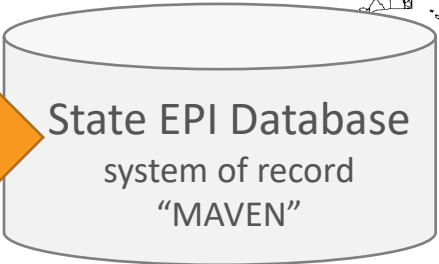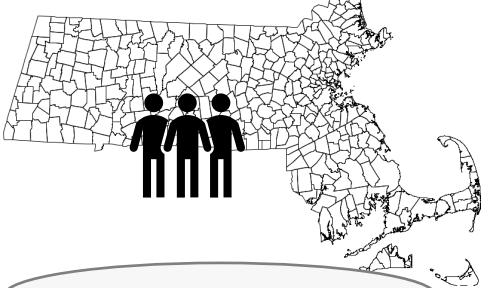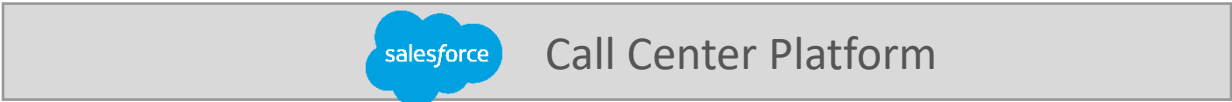
Timeline

7 days
to establish

- Mobilize General Contractor
- Select key partner organizations
- Begin hiring, onboarding, training
- Select & configure CRM, integrate with digital apps
- Integrate with State DB

6 days
to operations launch

13 days
total to go-live
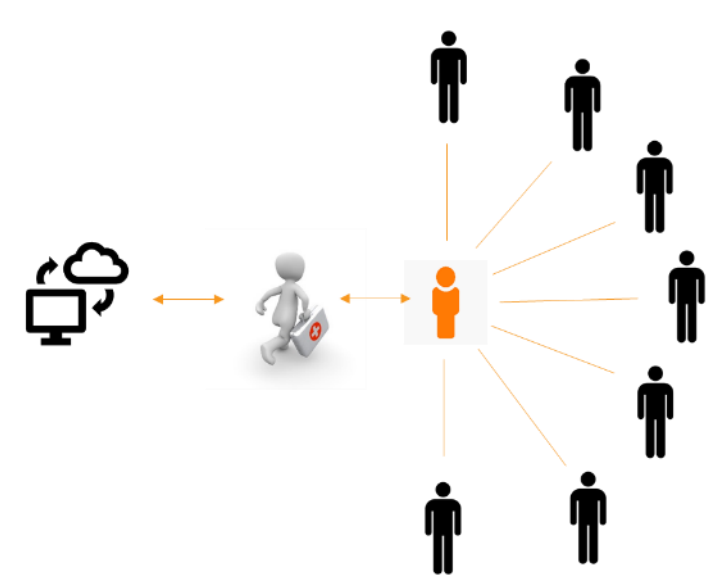
Program | Management & Accountability

Structured program management oversight

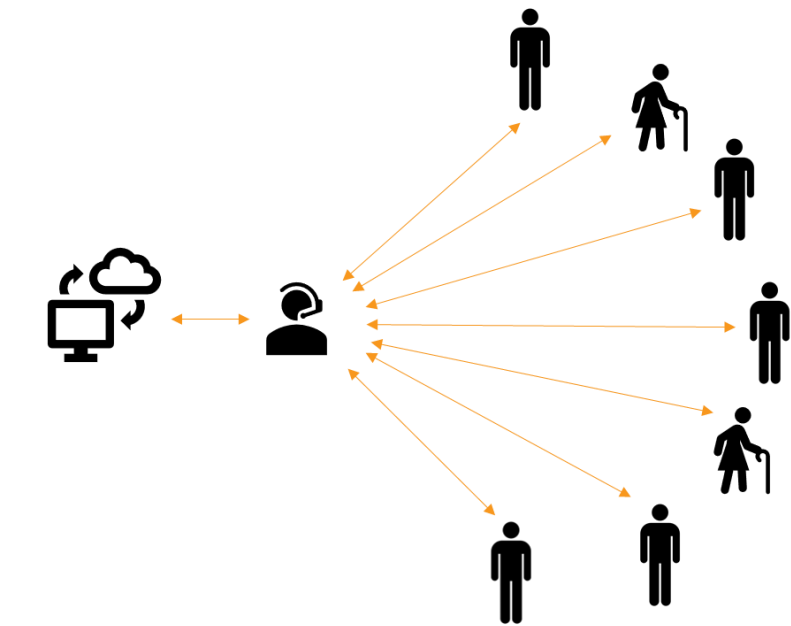Multiple parallel "swim-lanes" and work threads

2X daily standup meetings attended by all delivery entities + external stakeholders.
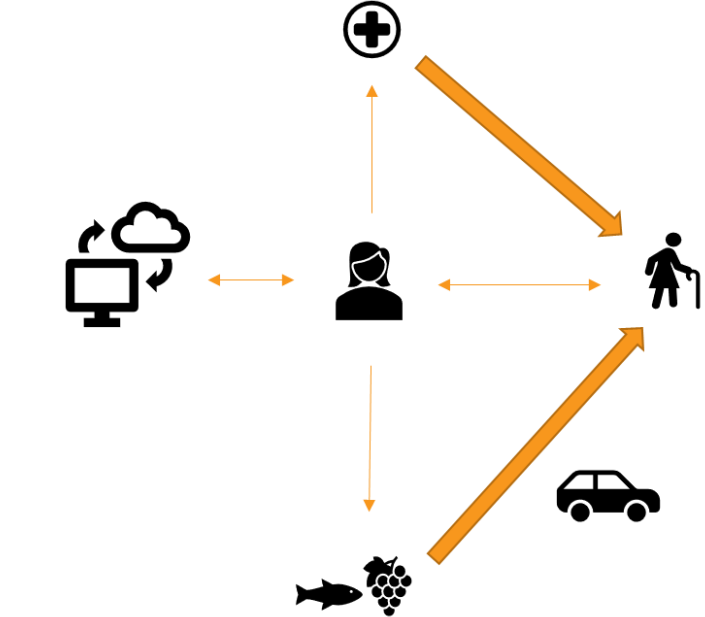
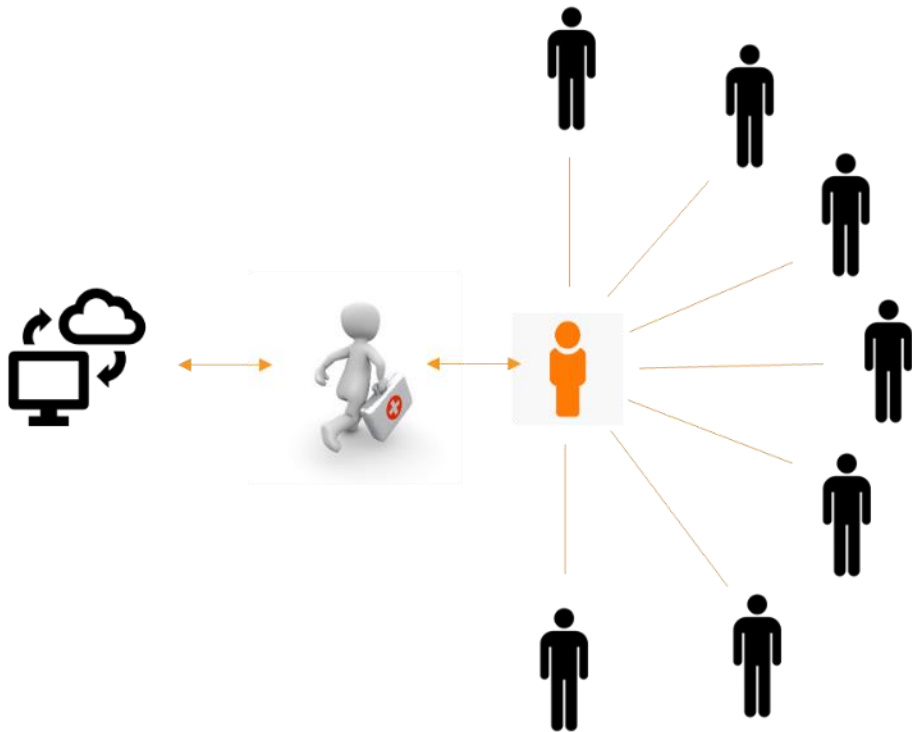# **People |** Key Contact Tracing Roles

## Case Investigators

## Contact Tracers

Care Resource Coordinator

People | Case Investigator

- **Recruitment and hiring**: Partners In Health
- **Training**: DPH and PIH train on contact investigation for COVID-19, plus additional training on CRM.
- **Qualifications**: Communication skills, empathy, ability to use smart phone technology, highly motivated and knowledgeable about the community.
- **Scope of work**:
  - Supplements the DPH efforts
  - Supervises a team of contact tracer
  - Contacts newly diagnosed COVID-19 patient (orange)
  - Explains diagnosis
  - Collects details on contacts
 - Enters contact details into a database
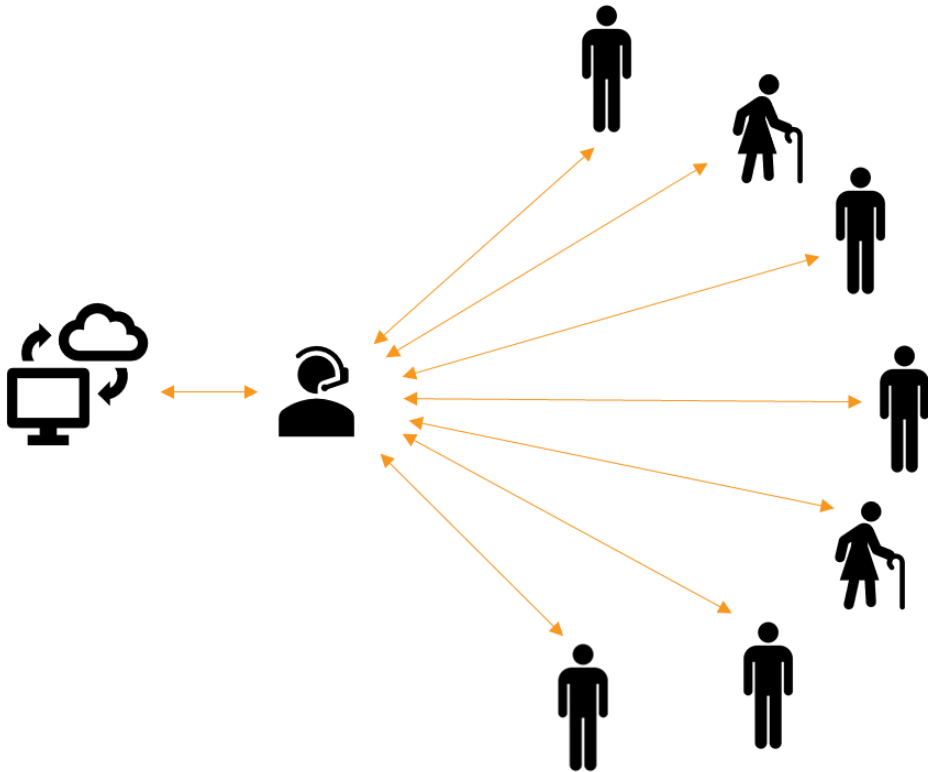
- **Recruitment and hiring**: Partners In Health
- **Training**: Standard protocols created by DPH and PIH.
- **Qualifications**: Communication skills, empathy, ability to use smart phone technology, highly motivated
- **Scope of Work**:
  - Receives names and phone numbers of contacts
  - Outreach to contacts.
  - Explains to contact the procedure for testing and quarantine. (Engages translation services where needed.)

People | Care Resource Coordinator
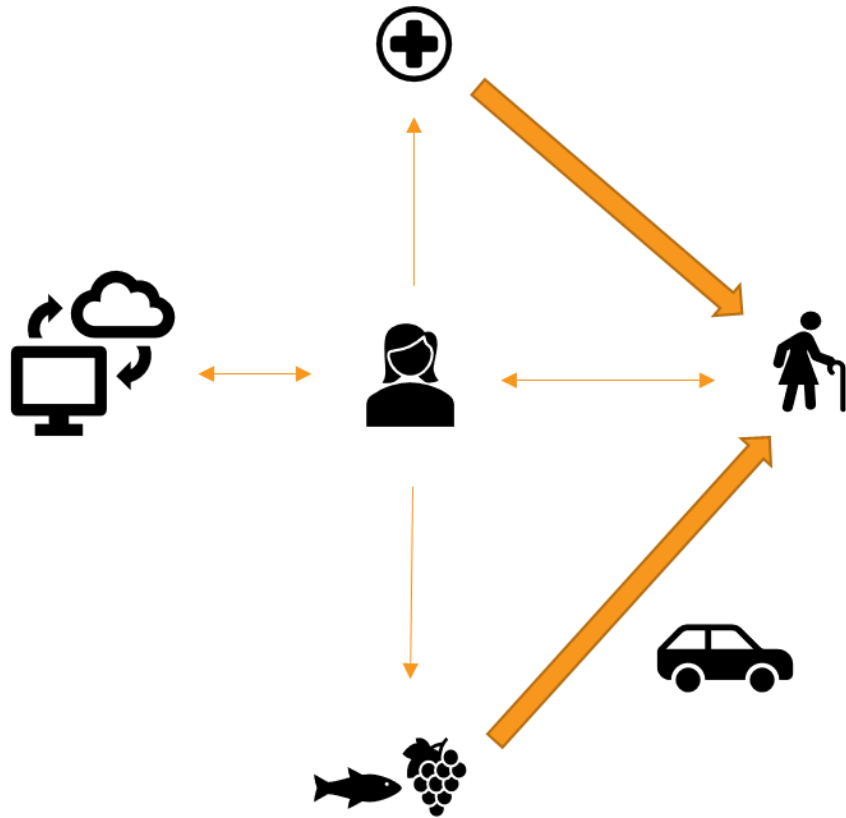
- **Recruitment and hiring**: Partners In Health

- **Training:** PIH and local boards of public health about community resources

- **Qualifications:** Social work/nursing or equivalent. Highly motivated and knowledgeable about the community

- **Scope of work**:
  - Interview patients identified as vulnerable.
  - Assessment of basic needs for follow up of testing or quarantine recommendations
  - Connect those needing support for COVID testing or quarantine with local resources by municipality
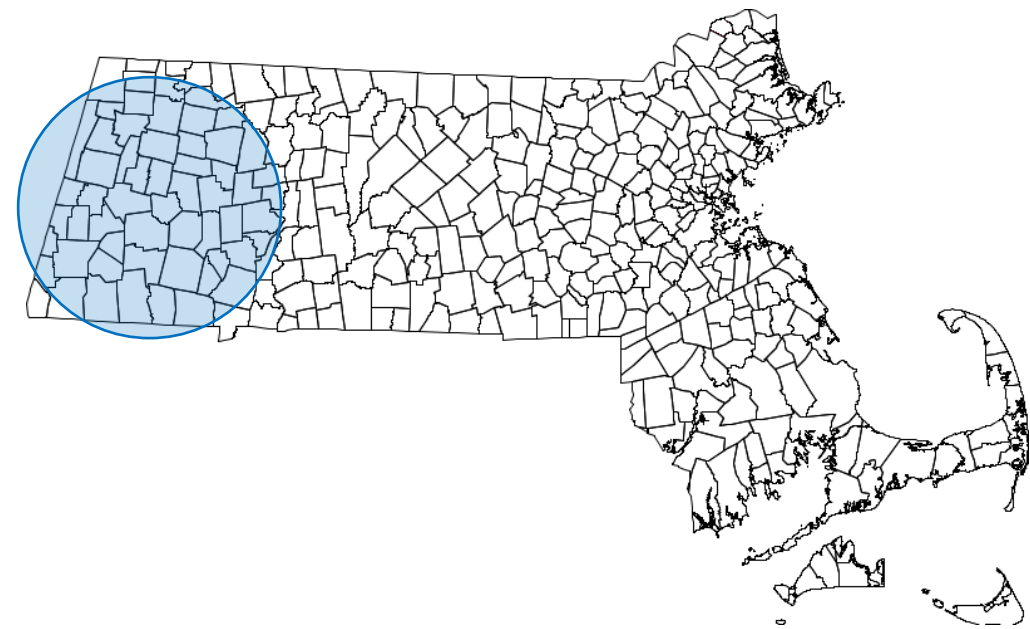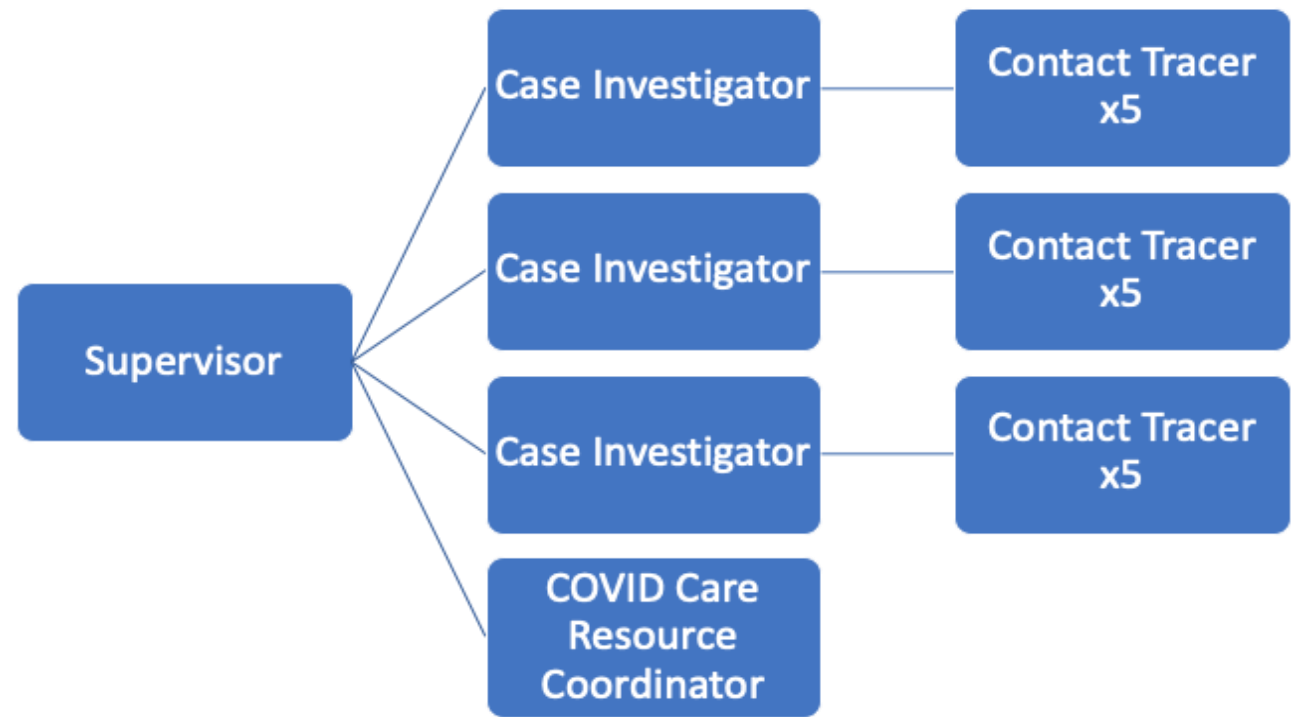
Early assumptions/findings:
~10 contacts/case if no stay-at-home
<5 contacts/case under focused stay-at-home

People | Training

| Training Element	Content	Hours	Delivery Mode
Web-based (Day 1)	Security, Privacy, Confidentiality; Customer Service; COVID-19 Overview; early IT training	4-6	Self-paced online modules, recorded webinars
Live Webinar (Day 2)	Detailed review of contact tracing processes, including scripts and FAQs; Introduction to partners; systems demonstration	2.5	Live webinar (presentation and demo)
Live Systems Practice (Day 2)	Detailed review and practice in CRM training sandbox for case investigation and contact tracing	2	Live practice with trainers
Additional Guided Practice (Day 3)	Additional practice opportunity in CRM sandbox + troubleshooting for permanent system	2	Live practice with trainers
Supervisor workshops	Topic dependent on new system functionality, particularly reporting.	1	Live presentation (weekly)
Case Investigator Skill-Up	Systems walkthrough and role play focused on CI processes in CRM	2	Presentation and role play; live or recording
Psychosocial First Aid	Intensive on how to best support clients and care for self amidst pandemic	2 (1x)	Presentation + discussion
Home Assessment + Referral to Social Assistance	Deep dive into script and procedures for referral to this key cadre of resource coordinators	1	Recorded session
Follow-up & Monitoring	Deep dive into follow-up systems for people in isolation and quarantine	1	Recorded session

Pre-service training
immediately upon hire

Inservice training
this list grows as systems and processes evolve

Program | High-Risk High-Priority Cases Remain with Local Boards of Health

Community Tracing Collaborative
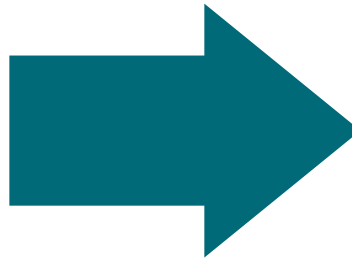
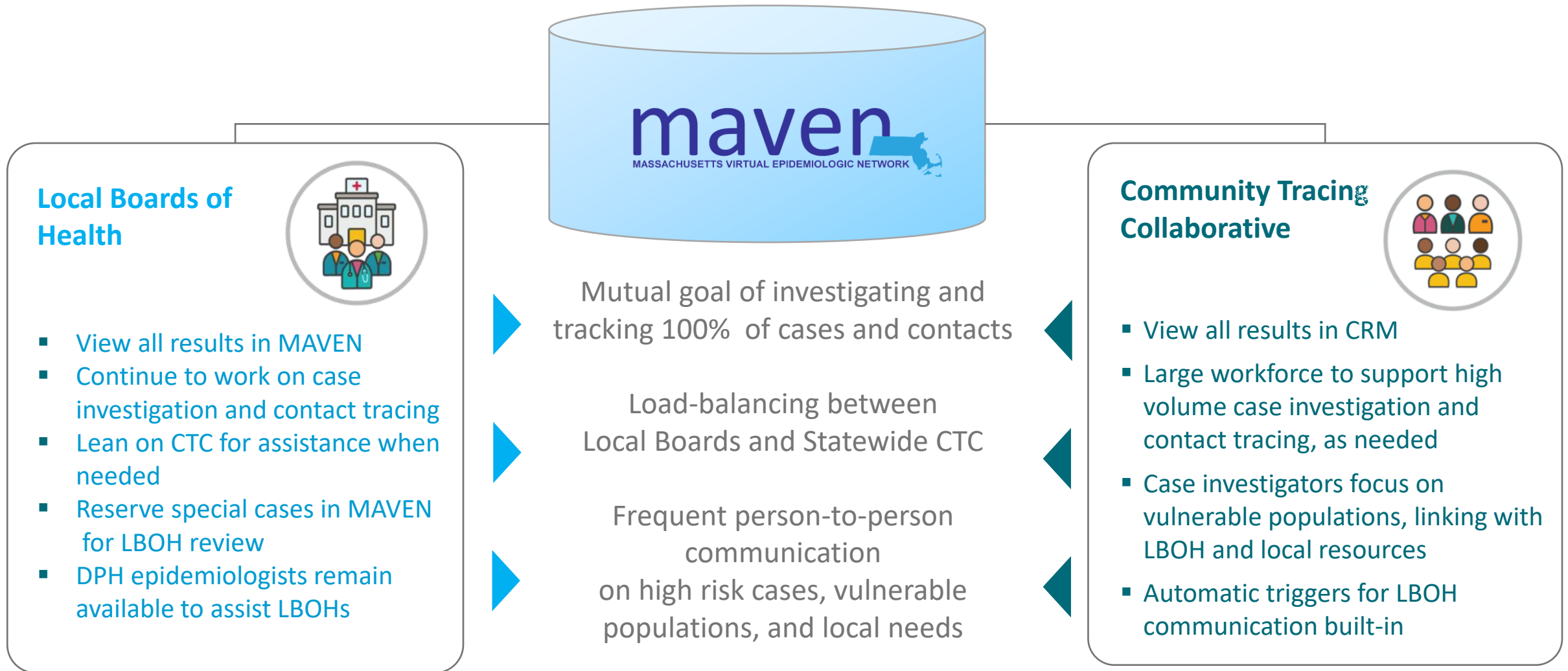**Local Boards of Health**

High-Risk High-Priority Cases

Congregate settings, e.g. nursing homes

Disease Clusters

Healthcare Workers

Any Complex Case

Technology & Data | Central role of State EPI System of Record

Local Boards of Health

- View all results in MAVEN
- Continue to work on case investigation and contact tracing
- Lean on CTC for assistance when needed
- Reserve special cases in MAVEN for LBOH review
- DPH epidemiologists remain available to assist LBOHs

Mutual goal of investigating and tracking 100% of cases and contacts

Load-balancing between Local Boards and Statewide CTC

Frequent person-to-person communication on high risk cases, vulnerable populations, and local needs

Community Tracing Collaborative

- View all results in CRM
- Large workforce to support high volume case investigation and contact tracing, as needed
- Case investigators focus on vulnerable populations, linking with LBOH and local resources
- Automatic triggers for LBOH communication built-in

Technology & Data | Core Information Principles

- State EPI System is the **System of Record** for COVID-19 confirmed cases

- A **robust call center or contact tracing platform** is necessary to successfully handle the volume and to reach cases/contacts through calls, texts, etc.

- These two platforms (State system of record + call center) must be **integrated or interfaced**

- **Focus on what is necessary** in terms of data-sharing

- Be clear about what metrics, data are coming from where

- Look to supplement with other **smart applications**.
  MA employs Buoy Health and is exploring other add-ons

- Technology & Operations go Hand-in-Hand: **Technology is only as good as the operations protocols**

- Technology & Operations are only as good as the initial and ongoing training, documentation of improvements and fixes, and ultimately the results

Technology & Data | Extremely Rapid Configuration of CRM, Prioritized Roadmap

Identify CRM "MVP"

Focus on essential scripts and workflow

Focus on integration with State centralized database

Prioritize other Features via Roadmap

	MVP R1.1.1 WEEK ENDING 4/17	RELEASE 1.2 WEEK ENDING 4/24	RELEASE 2.0 WEEK ENDING 5/1	RELEASE 2.1+ PENDING SPC PRIORITIZATION
RELEASE	**Initial softphone & CRM launch:** enable case investigators & contact tracers to begin calling and track info on cases & contacts	**Enabling full contact tracing:** Usability & scalability features; home assessment; and initial inbound call enablement	**Scenario & Communication Expansion:** Enabling email & templates, presumptive positives, & enhancements to inbound calling foundation	**Speed to Outreach, Industrialization, & Home Monitoring:** Doubling down on capabilities to enable speed to outreach, scale, and care
CHANNELS	Outbound, Inbound, SMS, Buoy/App, Emails, Communities, Chat, Web to Case	Outbound, Inbound, SMS, Buoy/App, Emails, Communities, Chat, Web to Case	Outbound, Inbound, SMS, Buoy/App, Emails, Communities, Chat, Web to Case	Outbound, Inbound, SMS, Buoy/App, Emails, Communities, Chat, Web to Case
SCRIPTS	Case Investigation & Contact Tracing (Script 1 & 2)			Follow-up & Support (Script 4 & 5)
TARGETED CAPABILITIES	**R1.0 – R1.1** • Case & Contact Management • Call Scripts • Manual File Integration with MAVEN • Softphone & Language Line Transfer **R1.1.1** • CRM Integration back to MAVEN • Minor UI Enhancements • Enabling Supervisor Lines	• Home Assessment • Integrated Telephony Widget in CRM • Click to Dial • Initial Inbound Call Routing • Call Back Request & Agent Greetings • Case Status & Closure Reasons • Field Validations critical to CRM-MAVEN Integration	• Enabling Suspected Positive Contact Tracing • Email (not automated) from CRM to Cases & Contacts • Email Templates & Attachments to Cases, Contacts, & LBOH • Inbound Calling Screen Pop • Handling of Repeatable Fields between CRM & MAVEN (e.g. Occupation, Hospitalization, etc.)	• Basic 1-way Outbound SMS • 2 - Way SMS & Chat • Community Portal & Web to Case • Buoy Marketing Cloud Integration • Email from Case • Home Monitoring & Care Plans • Auto-dial & Auto Case Routing • IVR Hold Time Notification • Auto-Task Logging • Profiles & Workforce Organization • Escalation Management • Multi-contact / Multi-case & De-dup • MAVEN Integration Enhancements • SSO Integration
REPORTING & ANALYTICS	• Manual reports and Dashboards from CTC CRM	• Visualizations in an Integrated Data Platform (Telephony & CTC CRM)		• Additional Visualizations in Integrated Data Platform (other data sources)

22

How do Human and Digital Supports for Tracing Relate?

- Virtual call center with CRM is a **highly automated** tech-enabled **"Both And" ecosystem.** We are continually reviewing for integration of automated supports.

- Effectiveness of **cellphone proximity tracing** and **geo location** is promising, but still unproven as stand-alone, especially where adoption/usage is voluntary.

- Real world circumstances create "edge cases" that automation is often not built to handle (language/cultural/income barriers; particular family/contact/congregate care situations; special local conditions)

- In-person tracing can be adapted as circumstances shift
  (e.g., increased emphasis on case investigation rather than contact tracing)

**Important Considerations
Ahead related to
Use of Automation**

- Mandatory vs Voluntary adoption

- Opt-in or Opt-out Participation

- Level of adoption necessary for minimal effectiveness

- Direct connection to widespread testing

- Identifying persons with post-COVID immunity

Marketing & Media | A comprehensive media campaign to promote adoption

The campaign will promote adoption and participation in contact tracing among diverse audiences across the state.

Key Communications Objectives

Inform all residents of MA about CTC initiative.

**Actively dispel misinformation and direct the public
to official verified sources (web, SMS, hotlines, etc.).**

**Develop messaging designed to counter any adoption
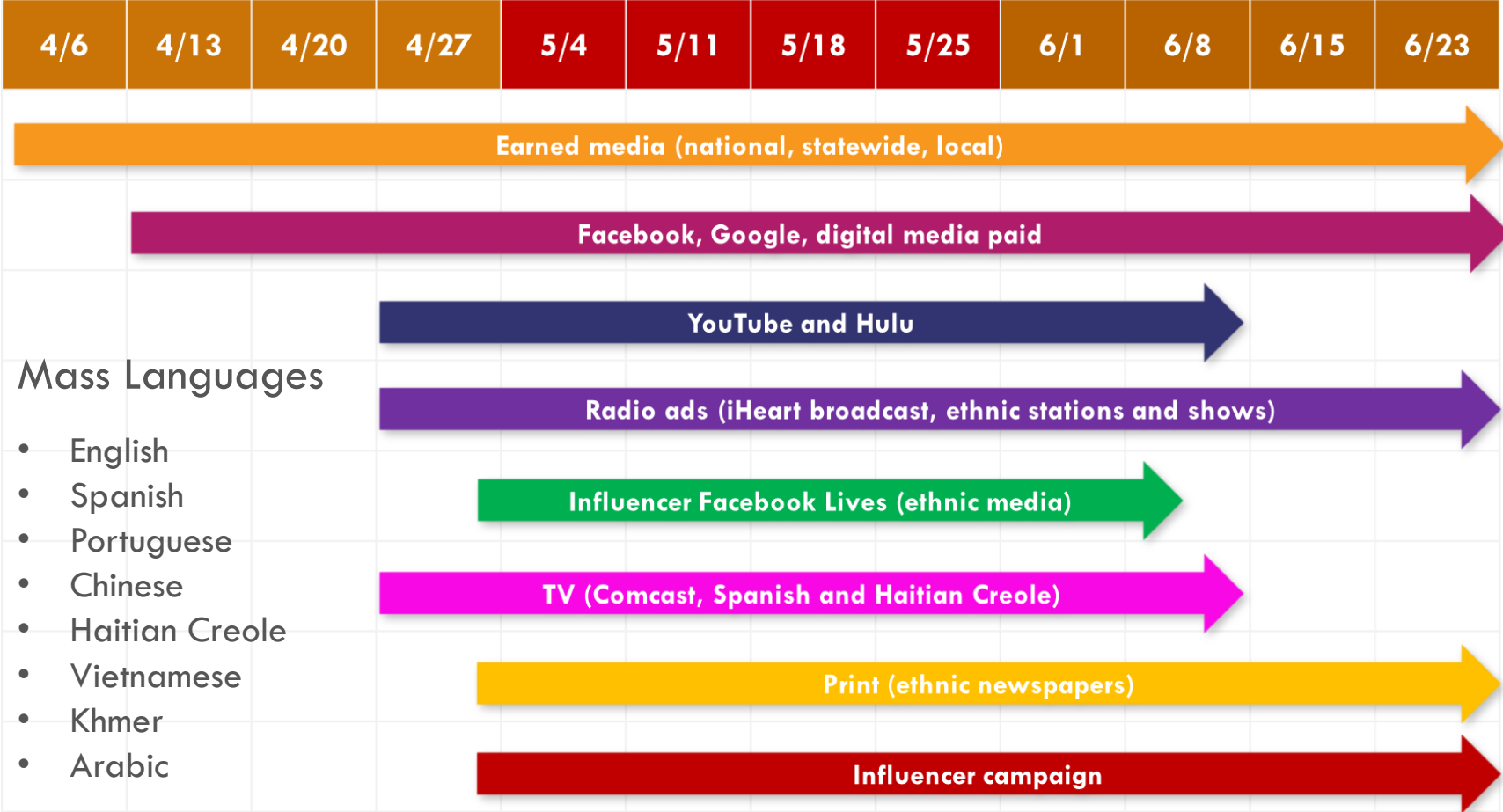barrier and foster broad public compliance.**

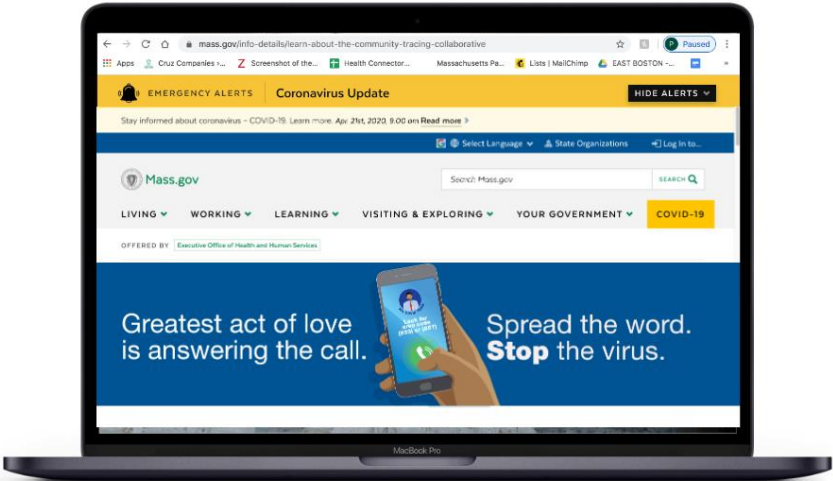# Marketing & Media | 2-Phase/2-Prongs Approach

Comms Strategy

- 2 Phases: Awareness + Adoption
- 2 Prongs: Top-down + Grassroots
- Multi-channel, targeted media buys
- Coordinated with Governor's Command Center
- Culture sensitivity/ language diversity
- Influencers Push

Typical Challenges to Overcome

- Call Blocking
- No caller ID capability
- Scammers
- Anxiety (legal status, insurance)

Mass Languages

- English
- Spanish
- Portuguese
- Chinese
- Haitian Creole
- Vietnamese
- Khmer
- Arabic

4/6	4/13	4/20	4/27	5/4	5/11	5/18	5/25	6/1	6/8	6/15	6/23

- Earned media (national, statewide, local)
- Facebook, Google, digital media paid
- YouTube and Hulu
- Radio ads (iHeart broadcast, ethnic stations and shows)
- Influencer Facebook Lives (ethnic media)
- TV (Comcast, Spanish and Haitian Creole)
- Print (ethnic newspapers)
- Influencer campaign

Spread the Word.
Stop the Virus.
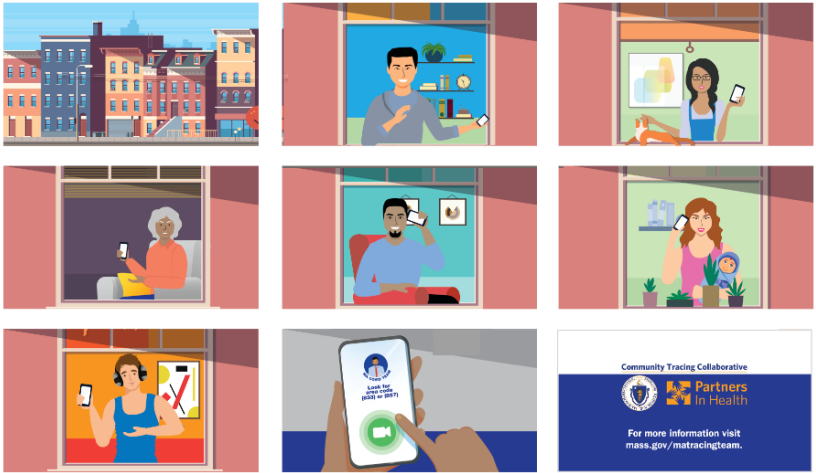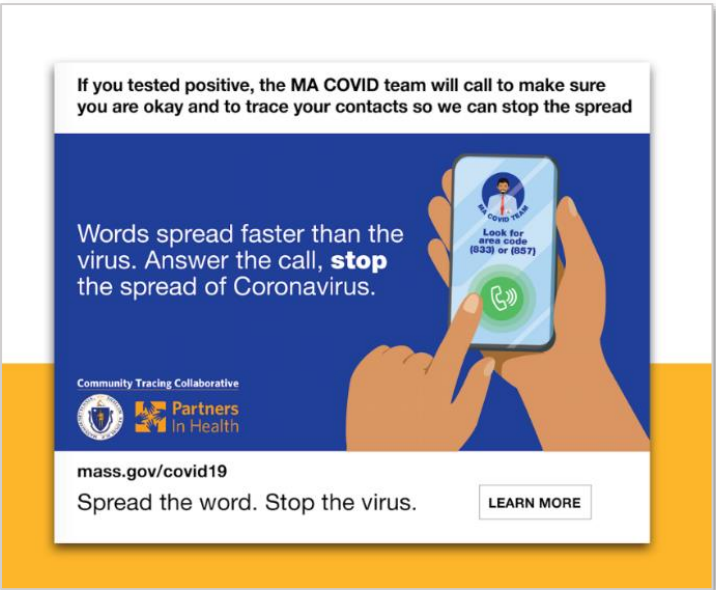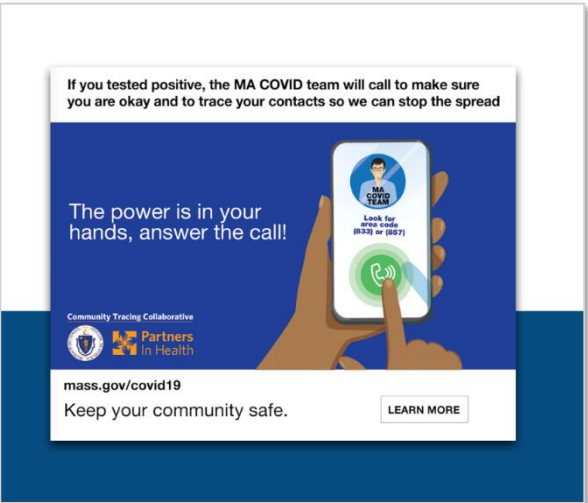
Financial | Budget

Key Components

- Contact tracing workforce
- Hiring/recruiting services
- Supervisor and call center management teams
- CRM platform/licensing/cloud services; Digital platforms and consumer apps
- Systems integration services
- Call center operations/maintenance/help desk
- Reporting and data analysis
- Communications/media
- Project management office (PMO) to oversee tracing effort

In-Kind Considerations

- DPH Core Staff & Systems from many areas
- Municipal LBOH staff and volunteers
- State procurement/legal expertise
- Staff support for specifying protocols, assisting in design and test, integrating with epidemiological system(s)
- State financial management resources

Other Financial Considerations

- Eligibility for Federal grants, matching funds, other supplementary economic
- Philanthropy and Corporate in-kind
- Other considerations may drive organizational architecture

Risks & Mitigation

Risks Remaining

- People not answering phone / low pickup rate

- Phone scams

- Contact tracing not understood and/or push-back, fear, concerns: need education, advertising, messaging

- Speed and complexity of adding CRM features required as the program develops

- Ability for clear, clean, timely and efficient information flows between MAVEN and CRM

- Lack of phone #s identified on test results making it difficult to reach Residents

- Inaccurate, incomplete information provided by + tested Residents regarding their Contacts

- Ability to refer Resident to Testing

- Ability to refer Resident to Isolation/Quarantine

- Availability of Social Supports for Isolation & Quarantine

Risks Resolved

- ✓ Timely agreement on scripts and protocols

- ✓ Ability to hire enough staff

- ✓ Ability of Call Center to be stood up in 2 weeks

- ✓ Ability of the Call Center platform to be configured

- ✓ Ability of Call Center, platform & operations to be scaled

- ✓ Ability to draw from MAVEN as epidemiological system of record

Performance | Major Milestones

Ramp
April

1. Hire + train 750 contact tracers
2. Launch CRM platform and link to State EPI database
3. Begin contact tracing & building key support linkages

Peak Run Rate
May - September

1. Improve efficiency of Call Center as the engine of contact tracing operation
2. Improve CRM functionality
3. Minimize time between positive test results and initial contact
4. Continually improve the interconnection of testing, tracing, isolation, support

Post-Peak Surveillance
October – March 2021

1. Adjust operation scale to meet need
2. Ability to address hot spots, resurgence
3. Provide key support to the 'opening up'

Want to be part of the COVID-19 solution?

Just answer the call.

We need your help. If you've tested positive for COVID 19,
the COVID Community Team will be reaching out via
phone to you and your close contacts to slow the spread.
We'll make sure that you are getting the medical attention
you need and support through quarantine.
Your caller ID will show the call is coming from
"**MA COVID Team.**"
Your name will not be released.

Massachusetts, let's answer the call.

#COVID19MA   **MA Community Tracing Collaborative**

For more information

Visit our rolling repository of program information
and artifacts including job descriptions, scripts, policy examples...

https://www.mass.gov/covid-19-community-tracing-collaborative-resources